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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ping Yip

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EXAMINER

SKOWRONEK, KARLHEINZ R

ART UNIT

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1631

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/663,968	<b>Applicant(s)</b> YIP, PING	
	<b>Examiner</b> KARLHEINZ R. SKOWRONEK	<b>Art Unit</b> 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 64,65,70,71,79,82 and 83 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 82-83 is/are allowed.
- 6) ☒ Claim(s) 64,65,70,71, and 79 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Status***

Claims 64, 65, 70, 71, 79, and 82-83 are pending.

Claims 1-63, 66-69, 72-78, 80-81, and 84-91 are cancelled.

Claims 64, 65, 70, 71, 79, and 82-83 have been examined.

Claims 64, 65, 70, 71, and 79 are rejected.

### ***Claim Rejections - 35 USC § 112***

#### ***Response to Arguments***

The rejection of claim 74 as indefinite under 35 USC 112, second paragraph is withdrawn in view of the cancellation of claim 74.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 64, 65, 70, and 79 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 64 and 65 are unclear with respect to the compressed data values and the step of compressing. The metes and bounds of the claims are indefinite. Claim 64 and 65 recite the step of compressing the intermediate data set and define a compressed data value. The claims lack a step or a link between the compressed data values and the compressed data set. In claim 64, lines 10-11 recite "compress the intermediate data set, the intermediate dataset having a plurality of data values associated with

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respective points in an array of data” and lines 18-19 recite a compressed data value is a real number that includes a whole portion representing the difference between two points in an array of data”. Claim 65 recites similar language in lines 10-11 and 18-20. It is unclear if the intermediate data set as a whole is compressed or the data values of the intermediate data set are compressed. The lack in clarity makes the relationship between lines 10-11 and 18-19 of claim 64 and line 10-11 and 18-20 of claim 65 ambiguous. If applicant intends the data values of the intermediate data set to be compressed, then amendment of the claims to reflect applicants intention would be appropriate.

Claims 70 and 71 are unclear with respect “the residual baseline is derived from data remaining in the intermediate data set after the areas around the putative peaks have been removed” in line 17-19 of claim 70 and line 12-13 of claim 71. The metes and bounds of the claim are rendered indefinite by the lack in clarity. The lack of clarity arises from the use of the phrase “derived from”. It unclear what applicant intended for the phrase to mean. If applicant intended "derived from" to mean, an act of generating as in line 10 of the claim, then lines 17-19 of claim 70, then an amendment to such would be appropriate. A similar amendment would be appropriate for claim 71.

Claims 70 and 71 are unclear with respect “an area” as recited in line 20 of claim 70 and line 18 of claim 71. The metes and bounds of the claim are rendered indefinite by the lack in clarity. It is unclear which area is referred to in line 20 of claim 70 or line 18 of claim 71. Line 16 of claim 70, similarly line 11 of claim 71 recites deleting an area around each putative peak. Line 20 does not provide an indication of the relationship of

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the area recited in line 20 to the area of line 16. If applicant intended the part of the area surrounding the putative peak to be **the** “area equal to twice the width of the Gaussian is removed from the left of the center of the putative peak”, then amendment of line 20-21 to “the area” and “each putative peak” may be appropriate. A similar amendment would be appropriate for line 18-19 of claim 71.

Claim 79 is unclear with respect to the derivation of peak probability and the relationship between the derivation and the allelic ratio. The metes and bounds of the claim are rendered indefinite by lack of clarity. Claim 79 recites, “deriving a peak probability” in line 16. It is unclear what applicant intends the term “deriving” to mean. If applicant intends the term “deriving” to mean that probabilities are determined or calculated then the claim should be appropriately amended.

### ***First Paragraph***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 79 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a WRITTEN DESCRIPTION REJECTION.

Claim 79 recites the derivation a peak probability from an allelic ratio. A review of the specification reveals that a peak probability is first determined from a probability profile (p. 20, lines 13-18). The specification guides that allelic ratio is used to determine an allelic penalty (p. 21, lines 13-22). The specification teaches that the peak probability determined from the peak profile is multiplied by the allelic penalty to calculate a final peak probability (p. 22, line 1-5). The claim broadly recites that a peak probability is derived from an allelic ratio. The teaching in the specification fails to provide written description to derive any peak profile from an allelic ratio alone.

### ***Claim Rejections - 35 USC § 103***

#### ***Response to Arguments***

The rejection of claims 46, 66-69, 72, 73, 77, 78, and 84-91 as unpatentable over Green in view of Dunkel under 35 USC 103(a) is withdrawn in view of the cancellation of claims 46, 66-69, 72, 73, 77, 78, and 84-91.

The rejection of claim 47 as unpatentable over Green in view of Dunkel and in further view of Stanton under 35 USC 103(a) is withdrawn in view of the cancellation of claim 47.

The rejection of claim 48-58 as unpatentable over Green in view of Dunkel and in further view of Shew under 35 USC 103(a) is withdrawn in view of the cancellation of claims 48-58.

The rejection of claim 59-62 as unpatentable over Green in view of Dunkel and in further view of Gavin under 35 USC 103(a) is withdrawn in view of the cancellation of claims 59-62.

The rejection of claim 63 as unpatentable over Green in view of Dunkel and in further view of Ferrige under 35 USC 103(a) is withdrawn in view of the cancellation of claim 63.

The rejection of claim 74-76 and 80-81 as unpatentable over Green in view of Dunkel in further view of Ferrige and in further view of Gull under 35 USC 103(a) is withdrawn in view of the cancellation of claim 74-76 and 80-81.

***Allowable Subject Matter***

Claims 82-83 are allowed.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARLHEINZ R. SKOWRONEK whose telephone number is (571)272-9047. The examiner can normally be reached on 8:00am-5:00pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie Moran can be reached on (571) 272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KARLHEINZ R SKOWRONEK/  
Examiner, Art Unit 1631

14 October 2009